

# ADVENTURES

IN WESTERN NEW YORK HISTORY



## Manufacturers of Wheels and Motors

By ROGER SQUIRE

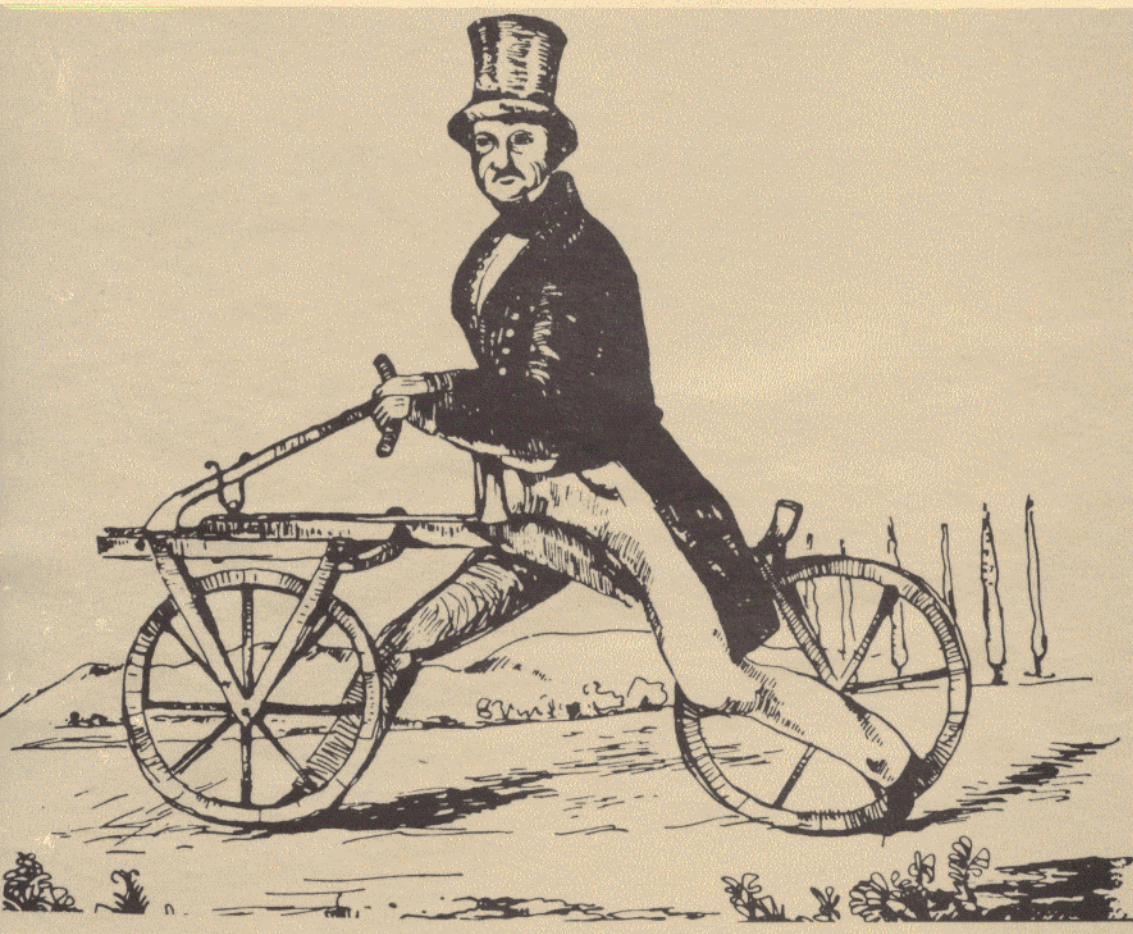


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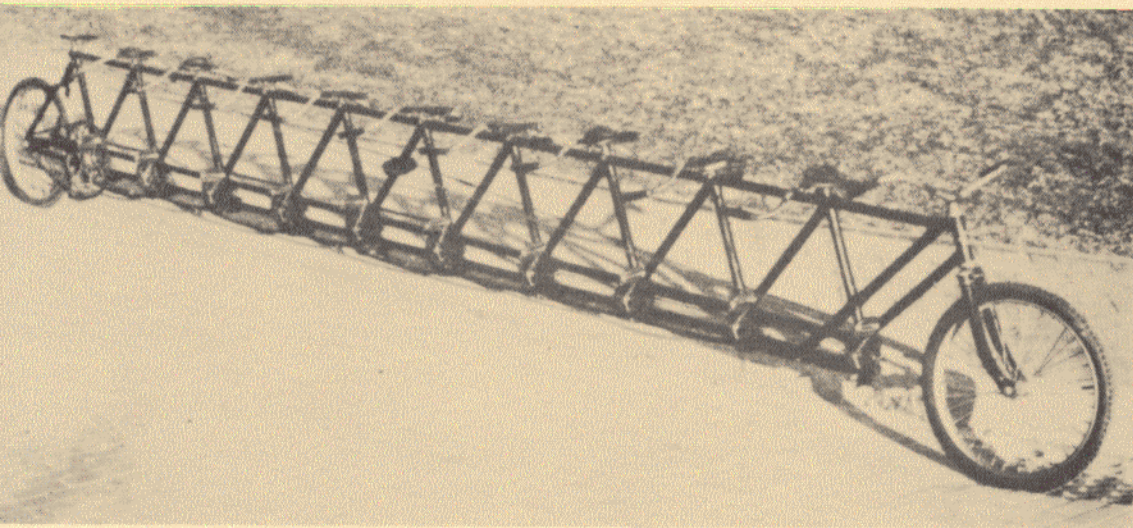
VOLUME XV

THE  
BUFFALO  
HISTORY  
MUSEUM





Karl Von Drais, father of the bicycle, on his Draisine. From an original sketch.



Decemtupel, or bicycle for ten, 1896, now owned by Henry Ford Museum, Dearborn, Mich.



## Adventures in Western New York History MANUFACTURERS OF WHEELS AND MOTORS

By Roger Squire

### *The Bicycle*

The bicycle reached the height of its popularity in the late nineteenth century. It was both a cheap, quick means of travel over a short distance and a pleasant, healthful sport. Before it reached its maximum efficiency, however, it went through the usual evolution of a complex machine.

The idea of riding on a seat directly over wheels occurred to several Europeans in the early 1800's. The man credited with the invention of the first practical two-wheeled vehicle was Karl von Drais, Baron of Saurbronn, who in 1816 appeared on the streets of Karlsruhe, Germany, on a contraption called the Draisine. A Frenchman, Chevalier de Sivrac, had invented a hobby-horse, the Celerifere, in 1790, but his model was of little use since it could not be steered.

The Draisine consisted basically of two small carriage wheels and a length of wood called a backbone, connected with two V-shaped uprights rising from the front and rear hubs of the wheels. Other parts were the saddle and back rest, and a crude tiller for steering. The rims of the wheels were covered with bands of iron. The rider moved forward by pushing the ground alternately with his feet and coasting between strokes. It was strenuous, but could double a man's pace with half the effort of walking.

This invention was followed in Europe by such variations as the Dandy-Horse, Swiftwalker, velocipede, and Bivector.

In 1838 a Scottish blacksmith, Kirkpatrick MacMillan, produced the first bicycle that could be driven with both feet off the ground. In 1845 another Scotsman, Gavin Dalzell, designed a bicycle with pedals beneath the rider, modern handlebars, and a mudguard. These two models were not widely used and had practically no influence upon the broad evolution of two-wheeled vehicles.

Years later, between 1855 and 1865, a less advanced type of bicycle named the velocipede was developed in France and became very popular. This was a modified hobby-horse with cranks and pedals attached to the front wheel.

It is not known when the velocipede was first produced in Buffalo. By the summer of 1869 over a thousand riders were reported on city streets, and several riding schools were well established. The riders were referred to humorously in the *Buffalo Express* as admirers of velocipedestrianology.



Buffalo "Ramblers," a prominent local bicycle club, August 1888.



Two participants at Buffalo Ramblers Club race meet held at Buffalo Athletic Club.

In March 1869, George Parr of Buffalo bought the right to manufacture velocipedes under the French patent and began making them at 76 Exchange Street. Before many years numerous firms in Western New York were turning out thousands of bicycles every year, making this one of the leading centers in the country. Buffalo bicycles were shipped throughout the world.

The velocipede was commonly referred to as the "bone-shaker." Its rigid, wooden frame and wooden wheels with iron tires did little to soften the bumps of the usual cobblestone streets and dirt roads.

Partly for this reason, the velocipede craze lasted only a few years. It was replaced by a bicycle known as an ordinary which had evolved in England from about 1852-1874. This differed from the velocipede in that it had one large wheel in front and a much smaller one in the rear. The pedals were attached to the front wheel. It had a metal frame, wire spokes, and steel rims which gave it greater speed. Though some were made with the larger wheel 80 inches in diameter, 60 inches was the maximum practical height. Even at this height many a cyclist received minor injuries from hitting a stone or rut and falling head over heels.

When the chain drive was invented about 1877, permitting gearing up for speed, the wheels became equal in size. This bicycle was known as a safety and was very much like the bicycle of the mid-twentieth century. During the 1870's tandems became popular, and multicycles occasionally were seen with seats for three, four, six, seven, or ten riders. The pneumatic tire for bicycles was invented by Dunlop about 1888, and made riding comfortable for the first time. From this period on the bicycle craze swept the country.

In 1891 the first bicycle in Buffalo with pneumatic tires was exhibited in the window of the Standard Cycle Co. This model was demonstrated to a skeptical public by Dai Lewis, who rode it without a blowout or puncture from Erie to Buffalo in twenty hours over frozen ruts and through long stretches of deep mud.

Country roads and cobblestone city streets added many hazards to bicycle riding. In the city, bicyclists rode whenever possible in the gutters which were paved with smooth stone slabs about a foot wide. Not until 1892 was Main Street paved with asphalt, the first stretch being from Swan Street to Chippewa. Such improvements were brought about largely through the political action of the bicycling public.

The League of American Wheelmen, the major influence for improved roads, was formed in 1880, and at its height had over one million members. The national magazine, the *American Wheelman*, was first published in Buffalo in 1892, then later published in New York City.

To popularize the bicycle, manufacturers staged many races and demonstrations. Local clubs such as the Buffalo Ramblers, the Buffalo Bicycling Club, and the Press Cycling Club also sponsored many races. The first bicycle race meet held in Buffalo was in 1886 at the Hamlin horseracing track near East Ferry Street. For sport throughout the 1890's many a young man made what was known as a "century run," consisting of a fifty mile ride into the country and back.

The speed of the racing bicyclist was amazing. In 1892 Arthur Zimmerman rode a mile in  $1/5$  second faster than the track record of Nancy Hanks, a famous trotter of her day. In 1899 Charles Murphy performed the feat of riding a mile in  $57-4/5$  seconds on a special track behind a locomotive which served as a windbreak. Over forty years later Alfred Letourner on the highest geared bicycle ever built rode a paced mile in 33.03 seconds, a rate of 108 miles an hour.

Charlie Dorntge of Buffalo was one of the country's great racers. He held a number of individual American records and in 1892 set a world's record, riding tandem with W. H. Penseyres. In 1897 the outstanding local race of the year was a 25-mile road race on Memorial Day, which attracted 234 entries. The route ran from Main and Humboldt Parkway, out Humboldt Parkway to Walden, to Transit, to Genesee, returning west on Genesee to Humboldt and Main. The racers were given handicaps. Racing declined after 1898 although the 6-day bicycle race for professionals continued for many years into the twentieth century.



Second annual bicycle run sponsored by Charles Haberer, owner of the Globe Cycle Works, shown in background. About 1900.

A few statistics will illustrate the rise and fall of bicycling in Buffalo. In 1885 the City Directory mentioned only one dealer. In 1900 it listed 79 manufacturers, 136 dealers and repairers, 3 makers of rims, 7 of name plates, 16 of tires, 23 of parts and fittings, and 72 of sundries. By 1910, due in part to the growing popularity of automobiles, these figures had dropped to 1 manufacturer, 70 dealers in bicycles and sundries, and 8 in parts and fittings.

Among the most prominent bicycle manufacturers were the Globe Bicycle Co., George N. Pierce Co., the Electric City Wheel Co., and the Queen City Cycle Co. Few statistics of these companies are available, with the exception of the Erie Bicycle Co., established at Lakeview by the Queen City Cycle Co.

The main floor of the Lakeview building was divided into two rows of rooms for the different operations, with a small section housing the engine and boiler room projecting from the middle of the building. The office was in the front on the west side. Behind this were the stock room, toolmakers' room, machine room, and filing room. From the front to the rear on the east were the assembly room, finishing room, superintendent's office, polishing room, and enameling room. Two other rooms were used by the girls who wrapped the finished enamelled parts in protective cloth and by the men who crated the bicycles and slid them



down an incline to a loading platform next to the Pennsylvania Railroad siding. Two more operations, shaping and grinding, were performed in the basement.

At the height of production during the winter months, the factory employed about 600 men who turned out 250 bicycles a day. The men worked in two shifts from 7 a.m. to 6 p.m. and from 7 p.m. to 6 a.m., and earned from about \$.50 to \$1.50 a day.

In the pioneer days of bicycling very few women dared to ride. They were handicapped by their long skirts and sense of modesty. Bloomers and a dropped metal frame helped to solve the problem.

The first woman in America to ride a safety bicycle was Buffalo-born Mrs. William F. Smith whose husband invented the first lady's bicycle built in this country. Later, the boulevards and park drives were filled with hundreds of couples whose thoughts echoed a popular parody of Christopher Marlowe's "The Passionate Shepherd to His Love:"

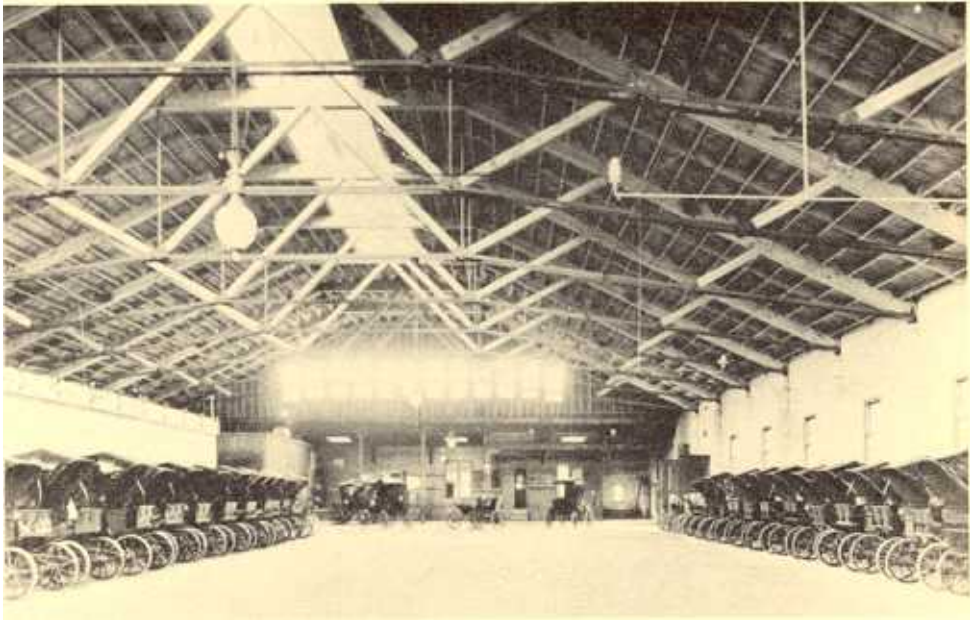
<i>Come ride with me and be my love,</i>	<i>And as our wheels revolve with speed,</i>
<i>And I will all the pleasures prove</i>	<i>Fair nature's beauties we can heed;</i>
<i>Of sauntering in the shady lane,</i>	<i>If these to you delights will prove,</i>
<i>Where golden tinted summer reigns.</i>	<i>Come ride with me and be my love.</i>

The Crosby Co. of Buffalo played an important part in the great increase in the number of bicycles manufactured in this country. In 1893 William H. Crosby, on becoming manager of the works established by the recently organized Spaulding Machine Screw Co., began to develop the manufacture of hollow bicycle parts stamped from sheet steel. Up to that time bicycle frame connections and joints had been made from cast or drop forged parts. By stamping, these parts were produced more cheaply, and of fully equal strength. Such parts also reduced the weight of a bicycle from about fifty pounds to twenty. In 1900 Mr. Crosby organized his own company which expanded steadily and eventually manufactured parts for many other products including automobiles.

### *The Early Automobile*

In the first fifty years of the twentieth century these thirty makes of automobiles were manufactured in Buffalo:

Adria	Centaur	Iroquois	Pierce-Arrow
Atterbury Truck	Chief	Kensington	Red Jacket
Automatic	Clark	Lad's Car	Seven Little Buffaloes
Auto Two	Conrad	Lutz	Spaulding
Brooks	Duquesne	Morelock	Starin Son
Buffalo	Genesee	Mutual	Stewart
Buffalo Electric	Ideal	Niagara	Thomas
(Babcock)		Parenti (all wood)	Tonawanda



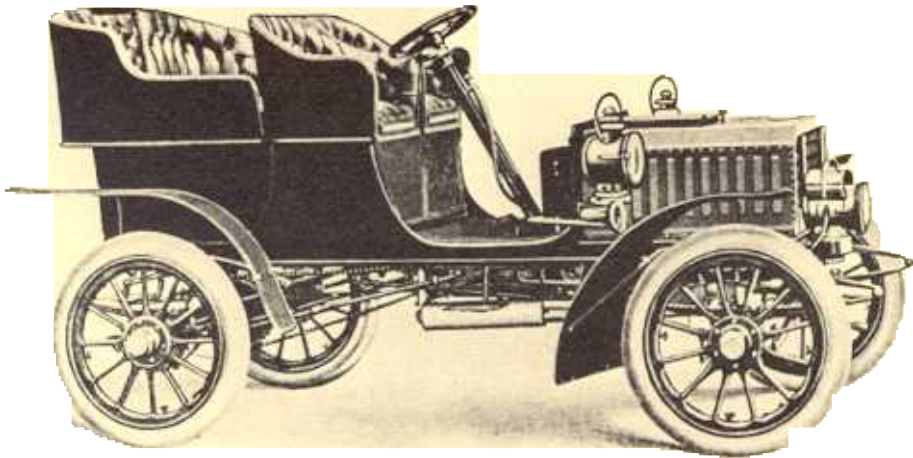
Buffalo Electric (Babcock) Stanhopes in company garage at 240 W. Utica Street, Buffalo. About 1905.

The Atterbury, Buffalo Electric (Babcock), and Stewart achieved national prominence. The Thomas Flyer was the most widely publicized car in the history of the industry. The Pierce-Arrow at its height was acknowledged to be the country's finest automobile.

The transition from the bicycle to the automobile can be traced most easily through the development of these last two companies. In 1895 Edwin R. Thomas formed a partnership with H. A. Lozier in Toronto to manufacture bicycles. In 1900 he sold out to the Canada Cycle and Motor Co. of which he was vice president; then shortly afterwards he resigned this position and moved to Buffalo where he set up business in the old Globe Bicycle factory at Elm St. and Broadway. Here he soon turned to the manufacturing of motorcycles.

Cartoons of motorcycles had been published in Europe shortly after Baron von Drais invented the bicycle, but it was not until the late 1860's that a steam-drive velocipede was built and exhibited. In 1885 the first gasoline-driven motorcycle was made by Daimler in Germany. In the late 1890's the first practical motorcycle made in America was the Thomas, propelled with a belt drive. The Thomas models had from two to four wheels and were named Auto Bi, Auto Tri, and Auto Quad. A quotation from an early advertisement shows how the Company promoted this new product:





12 horsepower Conrad gasoline touring car made by Conrad Motor Carriage Co. at 1413-17 Niagara Street, Buffalo. From preliminary catalogue.

They are preeminently road and pleasure vehicles and open up new avenues of enjoyment. There is a glorious sense of exhilaration from the rush of keen air, the flying movement through space, as the rider is carried along on the wings of the wind. In almost every field where the horse and carriage is now used, these light and serviceable vehicles can be substituted with immensely reduced expenditure of time and labor, and with increased utility. They will develop a speed of from five to twenty-five miles an hour, which can be regulated at the rider's will.

### *The E. R. Thomas Motor Car Co.*

The first automobile which the Thomas Company turned out was assembled from parts made by the Covert Co. of Lockport. In 1903 it made its own model, a two passenger car with a one cylinder motor, cooled by a radiator of horizontal tubes that hung over the chassis. Later, it made three and four cylinder cars which sold from \$3,000 to \$3,500. In 1908 it achieved international prominence by entering a car in the first race around the world, an event which was followed eagerly by the public throughout Europe and America.

The race was to be from New York to Paris over a 22,000 mile route across the United States, Alaska, Siberia, and Europe. It was sponsored by *Le Matin*, a Paris newspaper, with the *New York Times* cooperating. The world was skeptical that any automobile could survive such a grueling test, since no car had even been driven across the United States in winter. Few cars were driven anywhere after the first snow, it being too hard in cold



Thomas Flyer automobile in Round the World Race, 1908, shown in the mud up to the axles near Julesburg, Colo. Courtesy of the Long Island Automotive Museum, Southampton, Long Island.

weather to crank the motor and keep it from freezing. In addition, there were few garages to go to for help or repairs, no gas stations and no plows to make the roads passable. The *Buffalo Evening News* called the race "a Homeric adventure outdoing all the wanderings of Ulysses and Aeneas and the Argonauts combined."

In order to cross Siberia in the summer, the race was scheduled to leave New York City on Lincoln's Birthday, 1908. The Thomas Motor Car Co. entered the contest mainly to prove that an American car was the equal of the established European makes. The model chosen was a 1907 four cylinder Thomas Flyer of 60 horsepower. It had no top or windshield and was heavily weighted with extra tires and parts as well as two shovels, two picks, two axes, two lanterns, and three searchlights. Montague Roberts was the driver. George Schuster, the chief road tester for the Thomas Motor Car Co., was the mechanic and co-driver.

The Thomas was the only American car in the race. The other contestants were the French Motoblock, the Italian Zust, the French De Dion, the German Protos, and the French Sizaire-Naudin. At 11:15 a.m. on February 12, 1908, these six cars formed a line at the starting point in New York City in the presence, it is said, of 250,000 people.

As the cars drove north along the Hudson River, they soon encountered a snowstorm and from that point on met one hazard



after another, many of them unforeseen. The Thomas reached Albany on the following noon and went on to Schenectady. From this point, to avoid snowdrifts, it drove along the towpath of the Erie Canal. The breakdown of parts began in New York State and continued throughout the race, so that a large part of the time was consumed in making repairs. The roads and roadless territory were too rough for any car to pass over them without damage.

The Thomas reached Buffalo two and a half days after the start. Then it struggled on to Chicago through snowdrifts and blizzards, making only a few miles an hour at times. It took thirteen days to reach Chicago, where it arrived first among the five surviving cars. Once across the Mississippi River, its major battle was with mud.

Over the western prairie and through the mountains to San Francisco, it followed the old pioneer trail, except for long stretches over which it rode the tracks of the Union Pacific Railroad, with two wheels bumping over the wooden ties inside the rails and two wheels outside. This was hard on the tires and chassis. The heavy car in turn damaged the railroad ties so badly that when the German Protos driver asked permission to ride on the Southern Pacific tracks, the company refused to give its consent.

When the Thomas was landed by ship at Valdez, Alaska, the crew were told that the Alaskan trip had been cancelled. They returned the car to Seattle and put it aboard ship for Japan. In making the 90 mile trip across Japan, it had to travel 350 miles, many of the bridges and roads being too narrow to accommodate the wheels.

Disembarking at Vladivostock, the three surviving cars, the Protos, the Zust, and the Thomas, struggled on through the incredible mud of Siberia and over the tracks of the Trans-Siberian Railroad. At one point the Thomas stopped to pull the Protos out of a mud hole, an act of sportsmanship which was applauded throughout the world.

Once in Russia, the cars found improved roads, so that they made faster time. From St. Petersburg, now Leningrad, the cars drove through Germany to their destination with thousands of people watching along the way.

The Thomas arrived in Paris on July 30, four days behind the German Protos. The Thomas won the race by 26 days, however, because of a credit given for being the only car to go to Alaska, and the penalty imposed upon the Protos for not driving all the way to San Francisco on its own power. The distance the Thomas covered was 13,341 miles, or 3,246 more than the Protos. The Italian Zust reached Paris 49 days behind the Thomas.

When the Thomas car returned to Buffalo, world famous, it was escorted from the city line to Lafayette Square by the 74th Regiment Band and a parade of cars a mile long.

With this demonstration that the American car was the equal of the European, the sales of the Thomas Co. boomed temporarily. Its factory at 1200 Niagara Street was busy night and day turning out taxis and fire engines as well as pleasure cars.

The company was soon in difficulty, however. Even its world-wide publicity could not sustain an inferior product. The next two models, the L and M, were so poorly designed, according to Schuster, that they gave endless trouble to their owners and the dealers, and brought about a loss of personnel among both dealers and factory men. The Model L was noisy, underpowered and leaked oil. The company, furthermore, made the mistake of publishing false information about the race in its official brochure. This claimed that during the race the car was "never in the repair shop, none of the valves ground or changed; not a sparkplug was changed; nor were the crankshaft bearings changed or adjusted."

While the rest of the industry was expanding rapidly, the company's sales rose from 816 in 1908 to 1,036 in 1909 and then dropped to 913 in 1910. The model MX was a good one, but it was put out too late to repair the damage. In 1911 Mr. Thomas sold the company, of which he was the sole owner, to the banking house of Eugene Meyer. The Meyer firm brought in Packard men to straighten out the situation, but they were unable to restore public confidence. The company went bankrupt in August, 1912.

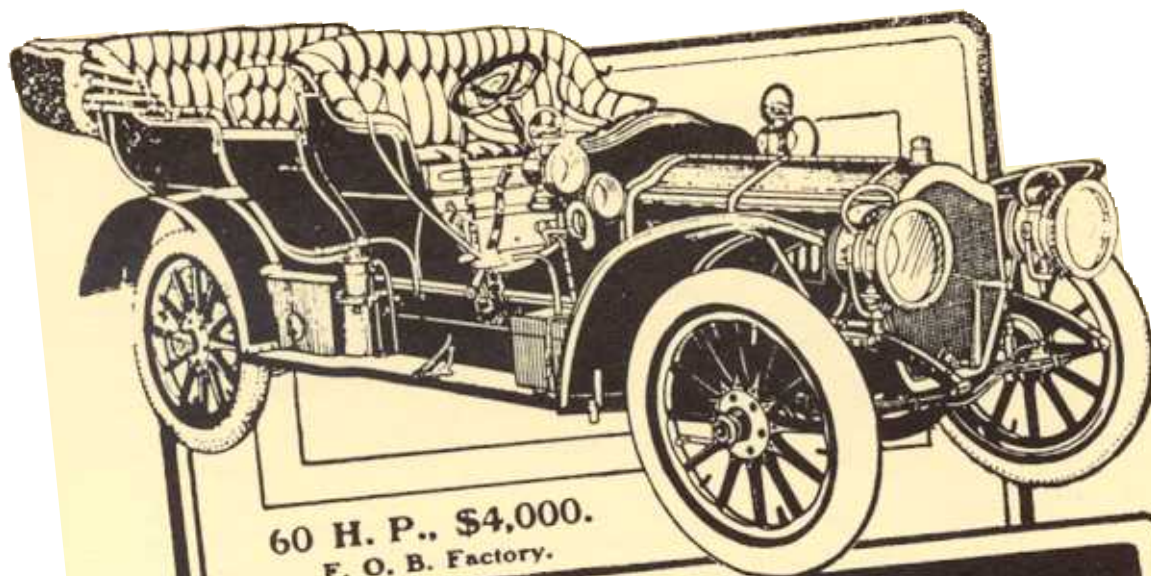
### ***The Pierce-Arrow Motor Car Co.***

The Pierce-Arrow Motor Car Co. had a less spectacular career, but from the beginning it earned its way to the top through sound engineering and management.

George N. Pierce, the founder of the company, began business in Buffalo in 1872 or 1873 when he established the firm of Heinz, Pierce and Munschauer to manufacture bird cages, tinware, toilet seats, bath tubs, water filters, and washing machines. In 1887 he organized a new firm, George N. Pierce Co., to make children's tricycles, and in 1891 made bicycles his main product.

In 1898, recognizing the importance of the automobile, the company was reorganized again and began to experiment with gasoline-driven motors. In 1900 while these experiments were continuing, the company turned out six steam cars, but soon abandoned the project because of the many problems encountered with a steam engine. In 1901 the engineering department under the direction of David Fergusson concentrated upon the gasoline-driven Pierce Motorette, and the company sold twenty-five of them during





# The Thomas - Flyer.

THE reliability of the 60 H. P. Thomas has at once been demonstrated and developed by two vitally important factors. The use of the car in the hands of more than a thousand owners has proven its reliability; and the invaluable information gained by this experience has perfected that reliability.

Again, the wonderful victories won last year vindicated the absolute trustworthiness of Thomas construction — and helped us to make it still more trustworthy.

World's records, long-distance trials, and endurance contests — by winning every event of note in which it was entered the Thomas proved itself the greatest car of 1906 and paved the way for a greater car in 1907.

Years of exhaustive experience devoted exclusively to building high-powered cars; a corps of the most eminent engineers in Europe engaged with our own splendid mechanical force; and four of the most perfectly equipped factories in the world — is it surprising that a thousand owners testify to its unvarying reliability?

Last year the 60 H. P. Thomas literally stamped the market. This year, with vastly increased facilities, history is repeating itself. We are perfectly disinterested in advising you to confer as soon as possible with your Thomas representative.

**E. R. THOMAS COMPANY, Buffalo, N. Y.**

*Members Association Licensed Automobile Manufacturers.*

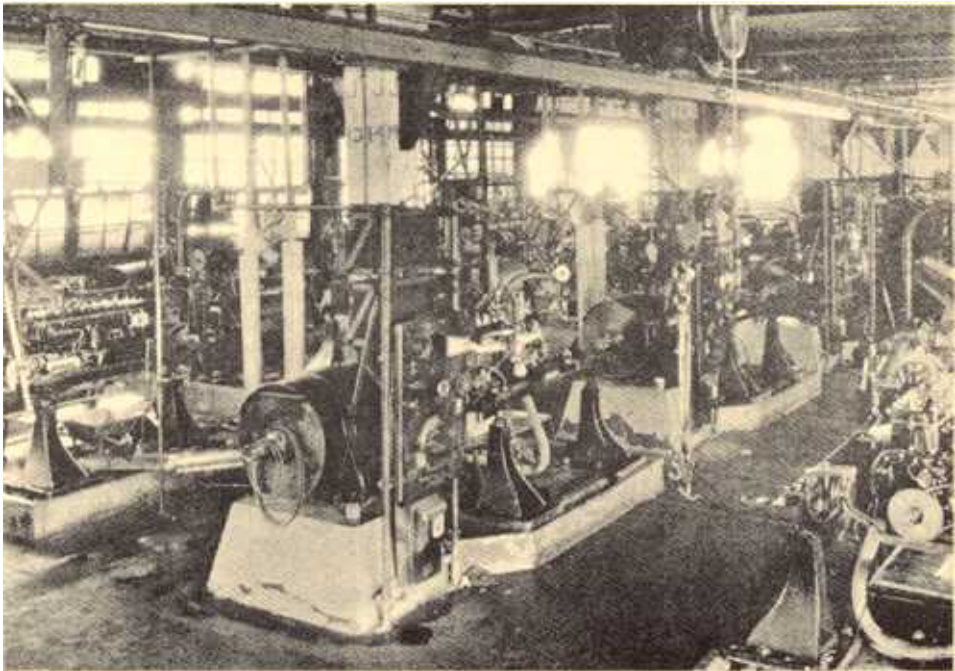
Advertisement for 1907 Thomas Flyer, made by E. R. Thomas Company, Buffalo.

the year. The mechanical evolution of this car can be sketched briefly.

The first model was powered by a De Dion one cylinder  $2\frac{3}{4}$  horsepower motor, imported from France and capable of a maximum speed of about 25 miles an hour. It sold for \$850. In thirty years this primitive "horseless carriage" evolved into a twelve cylinder, 150 horsepower limousine, town car, or runabout capable of cruising at 80 miles an hour.

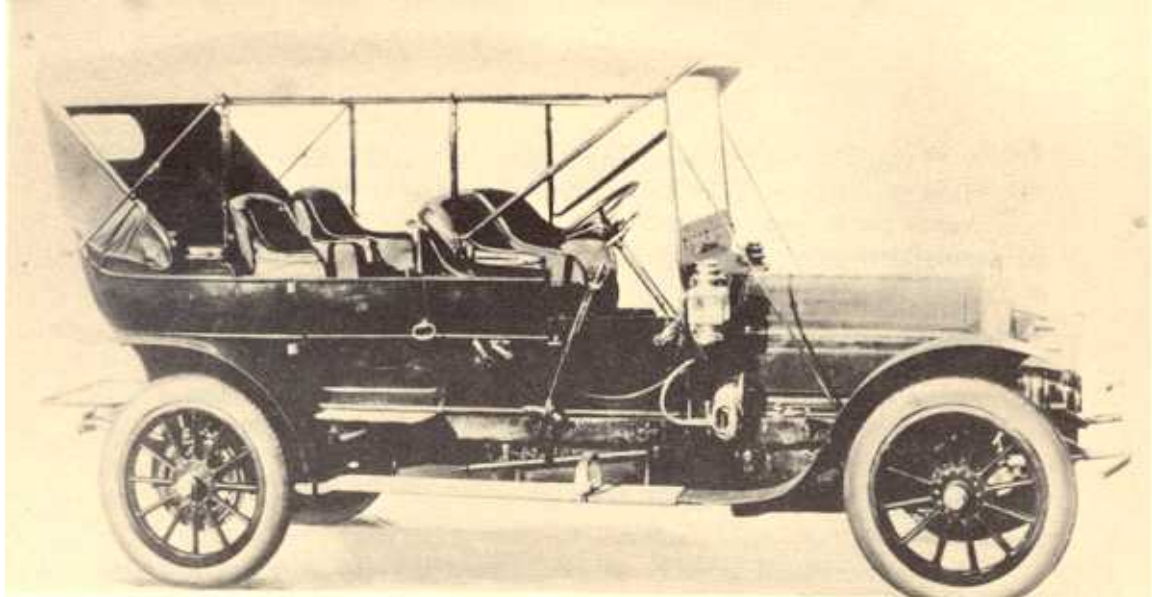
In 1903 four models were produced. Three had one cylinder vertical Pierce motors, varying from 3 to 8 horsepower. The most luxurious had a De Dion motor of 15 horsepower, a tonneau-type body with a rear entrance, three forward speeds and reverse. This was the first model that did not look like a buggy.

Wheel steering with the wheel on the right, appeared in 1904, as well as the gear change on the steering column. The Pierce kept this right hand steering wheel until 1920, long after the rest of the industry had abandoned it. In 1905 the frame was made of pressed steel, and the tonneau entrance was moved from the rear to the side. The motor now had four cylinders. A number of mechanical improvements took place. In 1907 the magneto appeared and shock absorbers added to the comfort of the ride. The six cylinder model of this year, with a motor generating 65 horsepower, weighed 4,150 pounds.



Pierce-Arrow engine assembly showing testing apparatus. From Pierce-Arrow brochure.





1908 Pierce-Arrow motor car.

In 1909 the general lines of the car were smoother with fewer projecting parts. The runabout was introduced. The wheelbase averaged about 130 inches. In the 1910 model the body and motor became more of a unit with the hood and body in line. One year later the front doors were added. The 1912 additions were an electric horn, demountable rims, and an electric lighting system. In 1913 the electric generator appeared. 1914 was the year in which the headlights were affixed to the fenders, one of the Pierce-Arrow's contributions to the industry, and the pressure fuel system introduced, as well as the electric starter. In 1918 the foot accelerator made driving simpler. The 1921 model was streamlined with a slanting windshield and had a thick sheet aluminum body.

For the next fifteen years as the entire industry developed in the direction of greater efficiency, comfort and power, engineering refinements continued. The style of the body went through many changes which enabled the Pierce-Arrow to hold its reputation as one of the most beautiful cars in America.

The Pierce-Arrow was tested on the road and driven to the dealer. Great numbers of them were sold through the annual brochure, with the customer picking out its exclusive accessories such as a toilet, or writing desk, and choosing the type and color of the upholstery, etc. One famous car, built for an Asiatic ruler, had a gold-plated radiator with a solid gold cap encrusted with jewels. Another infamous one was used by a bootlegger during Prohibition to run liquor from Canada to Buffalo. This twelve cylinder model could run on four cylinders, so the enterprising owner used the eight inactive cylinders as containers for whiskey.

From the beginning the achievements of the company were due to the high standards of its officers, as these paragraphs from the Pierce-Arrow brochure of 1913 testify:

There are two ways to design and build a motor car. One way is to fix the selling price in advance and then try to build as good a car as can be profitably marketed at that price. The other way — the Pierce-Arrow way — is to try and build just as good a car as is possible, regardless of selling price, find out what it will cost to build and market such a car, add a reasonable profit, and fix the price accordingly.

The Pierce-Arrow ideal is a completely efficient car. It is a car of safely and smoothly applied power, a car of maximum dependability, of maximum comfort and convenience for both passengers and drivers, a car of completely satisfying beauty, so designed and constructed that all these attributes shall be permanent, shall endure.

The owners and officers of the first company which grew out of the bicycle company in 1902 were: George N. Pierce, president; Henry May, vice-president and general manager; Charles Clifton, treasurer; Laurance H. Gardner, secretary; and William B. Hoyt, legal adviser. Other owners were William H. Gardner and George K. Birge.

In 1906 the automobile business was moved into a modern plant at 1685 Elmwood Avenue with 1,500,000 square feet of floor space. At its peak this plant employed over 10,000 workers.

In 1908 the name of the firm was changed to the Pierce-Arrow Motor Car Co. In the same year Mr. Pierce left the company. Mr. Birge, a successful manufacturer of wallpaper, succeeded him as president and directed the company's affairs until 1916 when he resigned, and Col. Clifton was elected to the position.

Col. Clifton was a generous, able man of integrity and vision. It was he who brought two French cars to Buffalo in 1904 to style the Pierce-Arrow after them and built the first tonneau-type car in America. For his leadership in the industry, he was made president of the National Automobile Manufacturers Association for eleven years. Mr. May directed the development of the car and the management of the plant. The two Gardners, father and son, both made important contributions as officers, as well as Mr. Hoyt who was consulted in all legal matters.

In 1910 the company introduced a worm gear truck, which was expanded into a line of four models: 2-ton, 3½-ton, 5-ton, and tractor. This truck played a vital role in moving troops and supplies during World War I and was a complete success. It finally disappeared from the market, largely because of a lack of interest among the officers who were committed to the development of the finest automobile in the country.

In 1916 when the company was earning about \$5,000,000 a year and selling a large number of cars and trucks, Mr. Birge decided to withdraw and broaden the ownership by converting



into a stock company with shares listed on the New York Stock Exchange. Accordingly, its owners sold out to a banking firm for \$16,500,000.

This was the beginning of hard times for the company. In 1919 the New York interests turned the management over to Goethals & Co., a famous firm of industrial engineers which sent John C. Jay, Jr., to be president. Col. Clifton became chairman of the board. In an attempt to modernize production, Mr. Jay discharged most of the key men of the plant. Henry May, the general manager, expressed his disapproval by resigning. In other areas also the new management did not do well. The 1920 model was unpopular, and many were returned for repairs. One year later Mr. Jay was replaced by George W. Mixter. In 1921, a year of severe economic depression, a loss of \$8,000,000 led to the cancellation of the contract with Goethals & Co. In 1922 to salvage the company, Col. Clifton made Myron E. Forbes president.

For awhile the company righted itself, but formidable obstacles lay in its path. The severe depression that followed the stock market crash of 1929 reduced the income of a large percentage of the well-to-do. Also, the giant Ford, General Motors, and Chrysler corporations, as they became more powerful and efficient, were forcing most of the weaker companies out of business. The Cadillac, Chrysler, and Lincoln cars were rivals of the Pierce-Arrow.

Moreover, the handcrafted product was becoming less and less able to compete with mass production. The complete Pierce-Arrow was still built in the one factory with many operations accurate to 2/10th of a 1,000th of an inch, which is the equivalent of 1/10th the thickness of a human hair. In the beginning such operations had been possible only by hand, but now large scale stamping machines and other devices enabled competing companies to turn out cheaper cars which gave satisfactory performance under normal conditions. The new smooth-surfaced roads made it unnecessary to have weight and length to insure a comfortable ride.

In 1928 the Studebaker Corporation purchased control of the company for \$2,000,000 and tried to revive its business by introducing a smaller car, the Series 80. This relatively compact Pierce-Arrow had a 130 inch wheelbase and a six cylinder 70 horsepower engine. The five passenger sedan sold for \$3,895.

Studebaker also employed an efficiency expert to put in a modified assembly line; but the plant, which had several floors, was not suitable for the type of assembly line developed by Ford and General Motors. The first two years under Studebaker management were prosperous. But, in 1932, the Studebaker Corporation itself was placed in receivership.

A Buffalo group bought control of the company for \$1,000,000 in 1933, intending to produce a smaller car, and almost saved the situation. A prospective bank loan, however, was held up by the declining stock market and never consummated. In 1938 the company went into bankruptcy, and its assets were sold at auction. This was the end of one of the greatest manufacturing companies ever developed in Buffalo.

### *The Automobile Club of Buffalo*

One of the most important forces in the improvement of driving conditions was the Automobile Club. In 1900 the Buffalo Automobile Club was organized as a social club with a limit of 75 members. In September, 1901, under the direction of Dai H. Lewis, it sponsored the first automobile race on the Niagara Frontier, a three-day race meet at the Ft. Erie Race Track.

In 1903, since little interest had been shown in such a club, its name was changed to the Automobile Club of Buffalo and its base broadened to include any owner of an automobile. From this point on it flourished and played an outstanding role in the guidance of traffic and automobile regulations, as well as in the promotion of race meets and better roads. In 1904, Mr. Lewis became the executive secretary of the Club and managed its affairs for the next 39 years.

At this time the Club had 333 members with dues of \$5.00 a year. Unreasonable speed laws were one of the problems it helped to alleviate and put on a sensible basis. Before its efforts, the speed limit within the city was 8 miles an hour in congested areas and 15 miles an hour elsewhere. Within the state, speed was limited to 8 miles an hour within half a mile of a post office or when passing a pedestrian or person driving a horse or domesticated animal. It was limited to 10 miles an hour when passing a public school within school hours, or a church during the hours of service; to 15 miles an hour in the suburbs where the houses were more than 100 feet apart and to 20 miles an hour in open country. For violation of the state law, the first time offender was fined not over \$50.00. The second offense included the possibility of imprisonment as well as a fine of from \$50 to \$200.

In 1905 the Club held its first annual orphan's picnic, which included a trip to Delaware Park and the Zoo, along with entertainment and refreshments. In 1906 Niagara Falls Boulevard came into being as a result of its agitation.



Throughout its early career the Club also erected road signs which gave directions and warned of dangers. A typical travel guide of 1910 in the days before roads were numbered, read as follows:

## BUFFALO TO BRADFORD

via Olean, 95.6 miles

Route 3

Miles

- |     |  |     |  |
|-----|--|-----|--|
| 0   | Leave City Hall and go south on Franklin St. one block, turn left on Swan St. and straight along to Seneca St. to end of asphalt pavement. | 5.6 | District School House No. 3 on left.   |
|     |  | 6   | Fork, keep right with trolley on left.   |
|     |  | 6.2 | Cross wooden bridge over <i>railroad tracks</i> .                              |
| 5   | City Line, Big Tree House on left, continue straight on with <i>street car tracks</i> on right.  | 6.5 | Curve right with trolley.  |
|     |  | 6.6 | Note power-house on left.  |
| 5.3 | <i>Cross trolley tracks.</i>   | 7.  | Curve left with trolley. Note small hotel on right, Gardenville Grove on left. |
| 5.4 | Pass under railroad bridge.  |     |  |
| 5.5 | Fork, bear left.   | 8   | Cross trolley tracks and cross road. EBENEZER                                  |

In 1905 Charles Glidden of Boston, Mass., gave the American Automobile Association a trophy to be put up as a perpetual prize for the winner of an annual automobile tour. This tour was not a race. Its purpose was to demonstrate the dependability of automobiles and show the necessity for better roads over which to operate them. It was also used in practice as a technical laboratory for the manufacturers. The maximum speed was set for each class of car, and the cars were rated according to performance.

The first tour ran from New York City to Bretton Woods, New Hampshire. The 1906 tour was an all-Buffalo affair. Mr. Lewis was appointed the official pathfinder and pilot, a position he held through 1910. The tour started at Buffalo, went through Saratoga to Montreal and Quebec and ended in Bretton Woods, a distance of 1,090 miles, and was won by Percy Pierce, the son of George N. Pierce, driving a Buffalo-made Pierce-Arrow. In 1907 the tour was converted into a club contest and was won by the

Buffalo Automobile Club with two Pierce-Arrows, two Thomases, and one Packard.



Pathfinding for Glidden tour, deep in the mud. From Dai H. Lewis, *America Bid Me Welcome*.



Early service station. From painting by C. Peter Helck. Courtesy Standard Oil Co. of New Jersey.



Two lady drivers in early Franklin. Courtesy of Automobile Manufacturers Association.

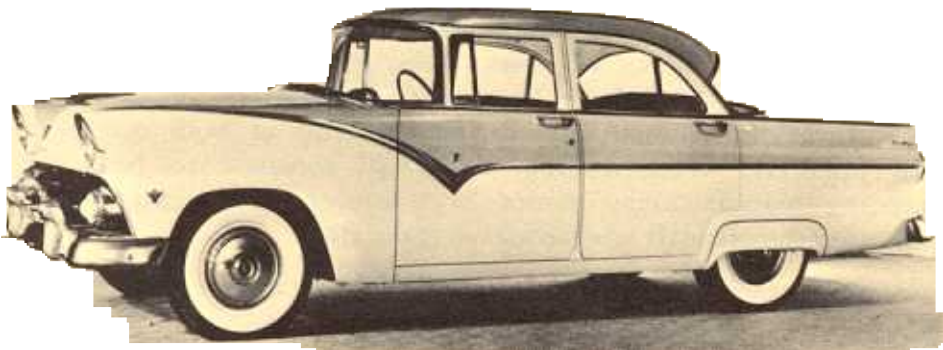


The average country road used for these tours was still in deplorable condition. The hilly roads, for example, were generally broken by ridges built from one side to the other to divert the water. In going over one of these water bars in Pennsylvania, a driver in the 1907 tour took the bar too fast and bounced his son out of the car. Instead of giving the boy sympathy, the man reproved him for leaving the car without permission.

### *The Automobile Industry Today*

Although by the mid-twentieth century all the automobile manufacturing plants originating in Western New York had gone out of existence, the manufacturing of automobiles in the 1950's and 1960's contributed more to the economy of the area than ever before. Sheet steel from the Lackawanna plant of the Bethlehem Steel Corp., stampings, forgings and castings all ended up as parts of an automobile. In addition, complete parts such as Trico windshield wipers, Harrison and Fedders radiators and air conditioners, and Auto-lite batteries were locally fabricated.

Huge divisions of Ford and Chevrolet employed between 15,000 and 20,000 workers. Both Ford and Chevrolet began operations locally as assembly plants. Ford opened a stamping plant, erected in 1950. Chevrolet began making gears and axles in its original assembly plant on East Delavan Avenue. In Tonawanda it also opened a motor plant in 1938, and in 1954, a forge and foundry.



Ford Fairlane four door sedan, 1955.



Chevrolet motor plant, River Rd., Town of Tonawanda, 1938.

Western New York not only produced outstanding manufacturers and public officials who helped develop the automobile industry locally, but also was the home of several figures who directed its course on a national scale. Among these was John J. Raskob, born in Lockport, who became chairman of the finance committee of General Motors. William G. Knudsen, born in Denmark, came to Buffalo in 1902 at the age of twenty-three and worked for the John R. Keim Mills. As production manager at the Ford Motor Co., he was known as the planner of the assembly line. He became president of General Motors in 1937. His son, Semon Emil, born in Buffalo in 1912, became executive vice-president of General Motors in 1959 and president of Ford in 1968.

In conclusion, while Western New York did not at any point dominate either the bicycle or automobile industry, through its quality products it contributed greatly to the development of both forms of transportation. Ships, railroad cars and equipment, bicycles, automobiles, airplanes, helicopters, hydroskimmers, and space vehicles — all have been made completely, or in part, by local firms. Because of its location in terms of both market and raw materials, Western New York will continue to be an outstanding manufacturing center of whatever new forms of transportation the research laboratories may develop.



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